

# PSYCHOLOGICAL ASPECTS OF OBESITY\*

WALTER W. HAMBURGER

Associate Professor of Psychiatry, University of Rochester School of Medicine and Dentistry,  
Rochester, N. Y.

IT HAS become the vogue in recent years to include a psychiatrist on panels discussing obesity. I am delighted to be the one invited this evening to join the distinguished investigators in this symposium honoring the memory of Doctor Augustus Walter Suiter. Having read of Dr. Suiter's abiding interest in Public Health and Preventive Medicine in New York State and in the nation,<sup>1,2</sup> I am sure he would be pleased with our subject tonight, representing as it does, one of our major public health problems. However, I have been trying to think through the essential meaning of psychiatric participation in this topic. I hope it is not just a fad. Actually I think there are several pertinent reasons.

First, the psychiatrist is that medical clinician who is focussed on the behavior of man and the forces, both rational and irrational, which motivate behavior. Eating behavior can rightfully be included in this sphere of observation. The eating behavior of the obese, be he man or mouse, represents an excess of food intake beyond caloric requirements. I am sure Doctors Mayer and Brobeck will agree with me that hyperphagia (over-eating) is a necessary, although not sufficient factor, in the development of obesity in all species. The psychiatrist knows from his clinical work that similar behavior may have many different meanings and motivations. We have conventionally assumed that eating is always for nutritional purposes. Eating for such purposes is then logical and rational behavior. Preliminary psychiatric observations in human obesity suggest a first hypothesis that some of the hyperphagia is for non-nutritional purposes. Hence this type of eating appears to be illogical or irrational behavior. By this I simply mean that the reasons for non-nutritional eating may not be immediately apparent to either the patient or his physician. Modern psychiatrists also know from their work that behavior which may appear to be inappropriate, does indeed

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have a purpose and logic, when we can ferret out the hidden meanings by appropriate study. The need to examine this first hypothesis concerning non-nutritional eating is one reason why psychiatric participation may make a contribution to the understanding of the syndrome of obesity.

A second reason for psychiatric participation is the fact that both hunger and appetite are feeling states or psychological experiences which lead the organism to the purposeful motor act of eating. Nutritionists, biochemists and physiologists, though well aware of this, have sometimes shied away from its implications on the ground that such feeling states are subjective, vague or downright unscientific. I couldn't agree with them more that the study and understanding of sensations and perceptions is still fuzzy and as yet unprecise. Nevertheless, we cannot afford to be like the intoxicated man who was hunting for his door key under a street light when a passer-by got down on his knees to help him. "But," the inebriant protested, "I lost my key over there," pointing to a darkened doorway. "Why in the world, then, are you searching here?" asked the good Samaritan. "Because," came the reply, "this is where the light is." Scientifically dim as the field of perceptions may be, we may yet find some keys to the problem of obesity, if investigators interested in perception, emotions and motivations will turn their attention to this problem. Until the recent past, psychiatric observations of obesity have been largely random and single case reports. A noteworthy exception has been Dr. Hilde Bruch of this city, whose systematic studies of obesity in children<sup>3-10</sup> have already shed considerable light on certain psychological factors. Another persistent searcher and researcher is Dr. Albert Stunkard<sup>11-15</sup> of the Cornell University Medical College. Such investigators and other newer recruits in the field, like myself, are constantly striving to perfect better and more precise tools of inquiry.

A third reason for psychiatric participation relates to species differences in the obesity syndrome. I am convinced that to adequately understand obesity in man, we must study man. Laboratory observations on the mouse, the rat, the cat, dog and monkey have produced valuable metabolic and biochemical information which may indeed be applicable to man. With respect to species differences in perceptions and emotions, however, the human animal is unique. This is so, at least in part, because of man's unique cerebral cortical development.

This evolutionary structure allows for a psychic elaboration and distortion of sensations, including hunger and appetite, which requires psychiatric collaboration in research on human obesity.

Now that I have attempted to justify my presence, I wish first to tackle the topic of hunger and appetite. I want to emphasize the distinction between hunger and appetite. On this subject, I commend to you the thoughtful 1949 article by Janowitz and Grossman.<sup>16</sup> My views are in considerable accord with theirs and that is, of course, the reason why I like their article! With them, I regard hunger as resulting from disturbed biochemical, physiologic and nutritional equilibria within the body. When these internal disturbances reach a certain threshold, the individual perceives his hunger as an uncomfortable, even painful, set of feelings which leads him to replenish nutrients by eating. This behavior is nutritionally appropriate and therefore rational to all of us. We could say the purpose of such eating is to restore disturbed nutritional homeostasis. Nutritional homeostasis is maintained by multiple regulations at the cellular, hormonal, humoral and organ level. Such multiple factors of nutritional regulation seem to be analogous to those outlined for the regulation of body water by Dr. Edward Adolph of the University of Rochester School of Medicine.<sup>17, 18</sup> Light is gradually being shed on the specific regulatory mechanisms involved in nutritional homeostasis by such contributions as Dr. Mayer's on the arteriovenous blood glucose ratio in hunger and satiety<sup>19</sup> and by Dr. Brobeck on the regulatory functions of the ventro-medial and the lateral nuclei of the hypothalamus.<sup>20</sup> When such regulatory devices are disturbed, the individual perceives his hunger as both a psychic signal of this disturbed homeostasis and a nutritional drive to eat. This then is the adaptive cycle of hunger, eating and satiety. The perception of hunger, as emphasized by Janowitz and Grossman,<sup>16</sup> is an unlearned, unconditioned response to disturbed nutritional homeostasis. The simple proof for this is that the human newborn when hungry becomes restless, cries (as a signal) and after adequate feeding, relaxes and falls asleep. This is an unlearned model of adult eating as part of a readaptive nutritional cycle.

How does appetite differ? Appetite is a psychological desire to eat. It refers to a pleasurable anticipation; specifically, the relief through eating from the uncomfortable and painful feelings of hunger. Appetite is a learned experience. Appetite is first conditioned by the repetitive cycle of feeding experiences following hunger in infancy. This is the

earliest learning of appetite and I call it conditioning because it has some of the characteristics of reflex stimulus-response before the mental apparatus or mind is fully developed. I would imagine that the appetite of an infant conditioned on a strict four hour schedule would be of a different order than the appetite of an infant fed on self-demand. With the maturation of the mental apparatus, appetite involves the memory of satiety and the anticipation of future gratification from eating. The neonate who continues to cry until fed will, at 6 or 8 months, stop crying, if he hears his mother's step upon the stair or sees his formula being prepared. His budding psyche has learned to anticipate, and then to wait, for the pleasure of eating. This gratification is no longer purely nutritional satiety. It now involves the pleasurable anticipation of emotional gratification. This repetitive cycle of nutritional and emotional gratification becomes further associated with the person giving the food, usually the mother. This intimate association of being fed and being loved by the mother is of major significance in the developmental history of appetite. It is, incidentally, also of major importance in the child's learning to love another human being.

That appetite can be conditioned in childhood by feelings toward other people is given physiological support by recent experiments of Engel, Reichsman and Segal in "A Study of an Infant with a Gastric Fistula."<sup>21</sup> These authors found that the rate of total hydrochloric acid secretion in a 15-20 months old girl increased when she was relating to a loved person. When she withdrew from a stranger, the rate of total hydrochloric acid secretion fell. In other words, at this level of development, the baby's stomach was responding to a loved person in a similar physiologic way as to food.

In later childhood appetite takes on further emotional meanings as the association widens to include feelings toward home and other family members. Restaurant owners and food advertisers count on these ubiquitous associations to appetite when they advertise "Pies like mother used to make" or "Home Cooking." As learning proceeds, appetite takes on social meanings with friends and relatives outside the family. Certainly in adult life, eating together is connected with feelings of friendship, good fellowship and well being. Even extrafamilial economic and cultural factors can become involved with the child's appetite. Food to a family of marginal economic existence may become invested with feelings of security and community status. Similarly, religious beliefs

of the family and community which involve food, like the separation of meat and dairy products in the Orthodox Jewish household, may leave an indelible imprint on the development of appetite.

The child's appetite may also become invested with feelings stemming from conflict with his parents. Why do we joke about how many people dislike spinach? Is it because spinach doesn't taste good or did certain parents force their kids to eat it whether they were hungry or not? I know all of you have seen an angry child refuse to eat as a defiance of his parents. Some parents punish a child's misbehavior by depriving him of his meal or his dessert. Other parents offer ice cream and other prized foods as rewards or bribes for good behavior. Thus appetite that started out in response to the purely physiological experience of hunger, becomes invested with such diverse emotions as love and approval, defiance and the fear of punishment. By the time of adulthood, many of these emotional associations to appetite have been repressed into unconscious reservoirs of the mind.

In summary, adult appetite, in contrast to hunger, is a learned psychological experience. Appetite is intimately involved with a variety of emotions which stem primarily from early childhood experiences. It is folklore knowledge that strong emotions affect our appetite. Love, grief, excitement, disgust or fear may cause marked changes in appetite through such associations. Morbid emotional states, such as depressions, invariably produce a disturbance in appetite. This intimate association of appetite with emotions gives a rational explanation for a second psychiatric hypothesis, namely, some of the hyperphagia in human obesity is serving emotional needs (rather than nutritional). The individual patient may or may not be aware of this relation between his appetite and his emotions.

I would now like to turn to some of the clinical observations from which these psychiatric hypotheses are derived. A few years ago, with the help of some of my colleagues, I had the opportunity to study 18 obese men and women who were referred to psychiatry for therapeutic help.<sup>22</sup> Some were referred because they had failed to lose weight in the hands of the internist, endocrinologist and dietitian. This is the "end of the line" referral. Others were referred because of known emotional problems and were only incidentally obese. Therefore this was a selected group of obese patients. All had been studied from the physical standpoint and no organic pathology found pertinent to their obesity.

The focus was initially on therapy and only of investigative interest after I went back to gather up the psychologic data. The investigative instrument was the psychiatric interview, ranging from 1 to 398 periods. I can tell you at once that our therapeutic results, as far as weight loss, was far less rewarding than what we learned about these patients' hyperphagia.

I delineated four types of hyperphagia from this selected group of patients:

Group 1. *Overeating as a response to non-specific emotional tensions.* Ten patients stated they ate more than usual when tense or upset. They said when nervous, anxious, lonely, bored or blue a snack would in some way make them feel better—even, at times, when they had recently eaten a full meal. Some of these patients ate the most at night, as recently emphasized by Stunkard, Grace and Wolff as part of "the night eating syndrome."<sup>12</sup> The most frequently expressed emotional stimulus to eating was feeling blue, discouraged or depressed. I will return to this point shortly. Some patients promptly volunteered their observation of eating when emotionally upset. Others initially made no such connection but later in psychotherapy differentiated between eating when hungry and eating when upset.

Group 2. If a person can respond to a transient stimulus of grief, love, frustration or anger with eating, is it not logical that he might chronically overeat if the emotional stimulus continues over a long period of time? Such chronic overeating was indeed detectable in a second group of seven patients delineated as *overeating as a substitute gratification in intolerable life situations*. Let me give you an example from this second group:

Mr. W. H., a 45 year old business man had been overweight since childhood, as had his parents, suggesting a genic or constitutional factor in the development of his obesity. His usual weight was 190 lbs. Six years previously he had lost a steady job and had been in numerous businesses since, with financial worries and feelings of failure. During this period he gained weight up to 243 lbs. He had lost confidence in himself and his abilities. He was aware of daytime snacks and night raids on the ice box, even when he wasn't truly hungry. This kind of observation suggests that continuing emotional upsets, in this case worry, frustration and discouragement, may lead to hyperphagia and then weight gain, in a person predisposed genically or metabolically to

obesity. This involves a multifactorial interpretation of this man's obesity and is to be distinguished from any single cause approach, like psychogenesis.

Group 3. *Overeating as a symptom of an underlying emotional illness.* Eight patients fell in this group. Their overeating is more distinctly a symptom, apparently helping to prevent the outbreak of an underlying emotional illness. The underlying illnesses were mostly emotional depressions of varying proportions and several forms of hysteria. The following case happens to illustrate both of these underlying illnesses at different times in one patient's life.

Mrs. P. S. was a 38 year old married woman whose weight fluctuated up to 163 lbs. She was thin in childhood and weighed 95 lbs. at the time of her marriage. This woman revealed in psychiatric interviews, major emotional ties to both parents. She had been poorly prepared for adult feminine functions including marriage. She had not known about menstruation until her first period came, which upset her emotionally. She had little sex information and very few dates before marrying at age 19. She reluctantly accepted intercourse with her husband during the first three years of marriage, during which period her weight increased from 95 to 110 lbs. From that point on she was periodically frigid and many times refused to let her husband physically touch her. She gradually gained weight up to 150 lbs. She was able to lose weight by diet and amphetamine but at lower weights she was irritable, nervous, smoked excessively and feared becoming habituated to Dexedrine. At lower weights she was so nervous that she sometimes was afraid to stay alone in her house. This patient spontaneously observed that at lower weights she was more active physically and these were the periods when she would allow intercourse. At higher weights she felt phlegmatic, easily fatigued but less nervous. During these peaks of weight she would refuse intercourse. Psychiatrically speaking, this woman has an hysterical personality. I believe that periodically she handles her latent anxieties and prevents an outburst of full blown phobias by overeating. At higher weights she refuses intercourse which is emotionally upsetting to her.

Following the death of her beloved mother, this patient stated that she "cried for months" and was in bed a good part of this period. At one despondent point she turned on the oven gas with a suicidal intent. Frightened by this, she determined to use more will power and "pull

herself together" for the sake of her family. During this period she again overate to a peak of 163 lbs. when she no longer felt so despondent. This episode represents a reactive depression handled in part by her habitual hyperphagic response.

Here then is a woman with fluctuating weight from 110 to 163 pounds. She is as much predisposed to anxiety-hysteria and to depression as she is to obesity. I regard her periodic hyperphagia as a symptom of a threatened outbreak of clinical hysterical or depressive illness. I am aware that this is my interpretation of the data as cause and effect. This is so because I look at what I look through psychiatric eyes. When more precise criteria can be established, it remains to be seen whether such inferences are justified.

Group 4. *Overeating as an addiction to food.* The hyperphagia of eight patients was so classified. This is an intense kind of craving for food which is insatiable. The hyperphagia is uncontrollable and constitutes a true compulsive symptom. It often exists from early childhood. It appeared to me to be less related to external life events or to transient emotions. The analogy to alcohol and other addictions is appropriate both in terms of the behavior and the personality structure of these patients. Actually two of these eight patients had been previously addicted to alcohol, but now crave food instead of drink. Such patients may hoard or carry food. Some steal food or the money with which to buy it. One 17 year old girl had physical fights with her parents when they refused to give her money to go on eating sprees. She spontaneously compared her eating jags at drug stores, diners and restaurants with an alcoholic "making his rounds".

You have undoubtedly noted that my groupings total more than the original 18 patients. This is so because the categories are artificial, the criteria for classification as yet tentative and therefore the groups do indeed overlap. My thought in trying to delineate such groups is that within the single parameter of psychologic factors, there seem to be multiple meanings relating to hyperphagia. If we can separate out the more benign psychologic factors from the more malignant, the more transient from the more chronic, the more conscious from the less conscious, we should have a more rational basis for therapy. It may help us to understand which groups of patients should be managed by the general physician, internist or dietitian and which ones should be referred to the psychiatrist.



Because all these 18 patients were psychiatric referrals, I am currently interviewing unreferral and randomly selected patients from our Medical Clinic at the Strong Memorial Hospital. I want to study the emotional factors involved in the hyperphagia of such unselected obese patients. I wish to establish more objective criteria for the classification of different psychological groups. From more accurate classification, predictions as to success in weight reduction should be feasible. I also believe that new investigative methods other than the psychiatric interview are needed.

I have therefore devised, with Dr. Vivian Harway of our Psychology Staff, a Food and Eating Sentence Completion Test for the comparison of obese with non-obese populations. How effective such an instrument will be in diagnosis and prediction remains to be studied.

Another approach which may interest you is the study of dreams of food and eating which have been reported by my patients in formal psychoanalytic therapy. A preliminary survey indicates that non-obese patients, as well as obese ones, frequently dream of food and eating. Their associations invariably lead into non-nutritional areas: their wish for love, succorance, approval or reward, their fear of sex and other topics. A completed study of 229 such dreams<sup>23</sup> adds support to the hypothesis that food and eating have many other symbolic meanings than nutritional. The most frequent meaning of the food and eating dream is the need for love and emotional support and a conflict around sexual desires. The patients are initially not aware of these meanings and they become revealed only after painstaking association to the dream symbols. The use of such dreams in psychoanalysis constitutes another methodologic approach to the manifold meanings of human appetites. In this regard we should not overlook the intuitive truths revealed in our language. The primary definition of appetite in Webster's dictionary<sup>24</sup> does not refer to food, hunger or nutrition at all. The first definition reads: "Appetite: An inherent or habitual desire or propensity for some personal gratification, either of body or mind; a craving."

I wish to conclude with a few random remarks on weight reduction. I know the practicing physicians and nutritionists in this audience are confronted daily with the practical management of the obese patient, so despite limitations of validated data, I offer the following psychiatric suggestions:

1. It may be rewarding in "working-up" the obese patient to give

some attention to emotional factors at the same time the physician is studying his patient's basal metabolism, glucose tolerance, thyroid and hypothalamic functions. In the course of history taking, can the physician detect fluctuations in appetite and/or body weight in relation to critical life experiences? Is the patient aware of eating when not hungry or in relation to strong emotions? Is the patient aware of conscious environmental pressures with which the physician can help him? Is there evidence of emotional illness, especially hysterical syndromes or depression, or unusual cravings for which the patient could be helped to consult a psychiatrist?

2. It would seem psychologically conservative to me, not to allow any patient to lose weight rapidly by any therapeutic regimen. Many patients become irritable, anxious or depressed at lower weights and a gradual readjustment of emotional as well as metabolic forces might keep this from excess. For an elaboration of this point, I refer you to the article of Hilde Bruch on the "Psychological Aspects of Reducing."<sup>25</sup>

3. The relationship of the physician and the dietitian to his patient is an exceedingly potent instrument for the effecting of weight loss. Consistent interest and encouragement can be far more efficacious than impersonal passing out of diet instructions without periodic return visits.

4. Serious pressure or punitive attitudes toward obesity is contraindicated. To be sure this is well meant with a professional eye on actuarial tables.<sup>26</sup> At the least, such an attitude is ineffective. And if it should be effective, without concomitant resolution of underlying emotional problems, major emotional upsets can result. I suspect some of the patients addicted to food should not lose weight at all. Despite a decreased life expectancy, obesity relating to addiction to food may be a healthier adaptation than addiction to alcohol or other drugs, or to serious depression.

In summary, tonight I have suggested certain psychological hypotheses relating to the hyperphagia of obese patients. Some of the hyperphagia appears to me to be entirely for non-nutritional purposes. Some eating seems to relate to underlying emotional needs of which the patient may or may not be aware. This type of hyperphagia becomes understandable as a psychic distortion of appetite in man. This is simply another type of regulatory abnormality which can contribute to the development of the obesity syndrome. As Dr. Mayer summarized for

us last year in *Nutrition Abstracts and Reviews*,<sup>27</sup> it is now evident that there are multiple factors in the regulation and maintenance of body weight. Disturbances may occur at any level, of which psychic distortions in appetite are one. I suspect each obese person differs in the degree of disturbance in his genic, metabolic, hormonal, humoral, hypothalamic or cortical sphere. We will adequately understand and treat the individual obese patient only when we give thorough attention to all of these factors, including the psychologic.

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